



$$H \equiv A \oplus B, \quad S \equiv M \oplus C_{in}, \quad C_{out} \equiv H(A) + H(C_{in})$$

Cin	0	1	2	3
W	0	1	2	3
X	0	1	2	3
Y	0	1	2	3
Z	0	1	2	3
CARRY Cout	0	1	2	3

0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3

FIG.3B

Cin	0	1	2	3
W	0	1	2	3
X	0	1	2	3
Y	0	1	2	3
Z	0	1	2	3
CARRY Cout	0	1	2	3

0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3

FIG.3A

	Cin	W	X	Y	Z	CARRY	Cout	S
0	0	0	0	0	0	0	0	0
1	0	0	0	0	1	0	0	1
1	0	0	0	1	0	0	0	1
2	0	0	0	1	1	0	1	0
1	0	0	1	0	0	0	0	1
2	0	0	1	0	1	0	1	0
2	0	0	1	1	0	0	1	0
3	0	0	1	1	1	0	1	1
1	0	1	0	0	0	0	0	1
2	0	1	0	0	1	1	0	0
2	0	1	0	1	0	0	1	1
3	0	1	0	1	1	0	1	1
2	0	1	1	0	0	0	0	0
3	0	1	1	0	1	0	1	1
4	0	1	1	1	0	0	1	0
4	0	1	1	1	1	1	1	0
1	1	0	0	0	0	0	0	1
2	1	0	0	0	1	1	0	0
2	1	0	0	1	0	0	0	0
3	1	0	0	1	1	0	0	0
2	1	0	1	0	0	0	0	1
3	1	0	1	0	1	1	1	1
3	1	0	1	1	0	0	1	0
4	1	0	1	1	1	1	1	0
2	1	1	0	0	0	1	0	0
3	1	1	0	0	1	1	0	1
3	1	1	0	1	0	1	0	1
4	1	1	0	1	1	1	1	0
4	1	1	1	0	0	1	1	0
4	1	1	1	0	1	1	1	0
5	1	1	1	1	0	1	1	1

Cin ^W	CARRY	Cout	SUM
0	0	Co	S
1	1	Co	\bar{S}

FIG.3D

FIG.3C

FIG.4

